Injuries and illnesses in performance-age bucking bulls: 78 cases (2000-2014)

J.S. Smith[1], *DVM, MPS*; **J.A. Angelos**[2], *DVM, PhD, DACVIM*; **M. Chigerwe**[2], *BVSc, MPH, PhD, DACVIM*
[1]*William R. Pritchard Veterinary Medical Teaching Hospital, University of California-Davis, Davis, CA 95616*
[2]*Department of Medicine and Epidemiology, University of California-Davis, Davis, CA 95616*

Introduction

Over the past 2 decades, bull riding has emerged as a growing stand alone industry of domestic and international interest. Currently no studies have evaluated commonly diagnosed injuries and diseases of bucking and rodeo bulls.

The purpose of this study was to describe injuries and disease conditions diagnosed in performace bucking bulls presented to a veterinary medical teaching hospital.

Materials and Methods

The records of intact male bovine inpatients ≥ 1 year of age used for or raised for use in rodeo and bucking events that presented to the University of California-Davis Veterinary Medical Teaching Hospital (VMTH) for non-elective procedures between January 1, 2000 and April 1, 2014 were evaluated.

Results

Most frequent diagnoses in the 78 bulls were musculoskeletal related injury (n = 54), horn injury and/or sinusitis (n = 10), soft tissue abscess (n = 3), actinomycosis (n = 2), nutritional disorder (n = 2), and traumatic reticuloperitonitis (n = 2).

Of the bulls with musculoskeletal related injuries, diagnoses involving the vertebral region included lumbar vertebral fractures, osteomyelitis, lumbosacral disc disease, non-specific spinal trauma, non-specific lumbar pain, and epaxial muscle swelling.

Fifteen of the musculoskeletal injuries included hoof injuries. Other musculoskeletal injuries included those involving the tibia, tarsus, fetlock, distal phalanx, carpus, stifle, and femur. The 10 diagnoses involving a horn injury and/or sinusitis were comprised of sinusitis and horn fracture.

Significance

Musculoskeletal related injuries clustered around the horns and sinuses, vertebral region, and hooves. Bulls with vertebral injuries had a lower successful return to bucking. Practitioners should prepare for restraint, sedation, anesthesia, and potential imaging concerns for examination and treatment of these bulls.

Effect of castration regimen on health, performance, and inflammation in beef cattle

J.G. Powell[1], *DVM, PhD*; **S.L. Roberts**[2], *MS*; **H.D. Hughes**[2], *MS*; **J.T. Richeson**[2], *PhD*
[1]*University of Arkansas, Fayetteville, AR 72701*
[2]*West Texas A&M, Canyon, TX 79016*

Introduction

Castration is a common management procedure for bull calves, and it is routinely performed without analgesia. In the US, there is no approved medication for analgesia in cattle. However, meloxicam is an NSAID that is FDA-approved and prescribed for pain relief in other species, such as companion animals, but its use in food producing animals is extra-label. The study objective was to determine the effects of castration method (surgical vs banding) at feedlot arrival and efficacy of meloxicam administered concurrent to castration compared to a negative control (calves castrated near birth).

Materials and Methods

After a post-weaning preconditioning period, male calves (n = 69) were shipped from the University of Arkansas beef cattle research herd to the West Texas A&M research feedlot and held for a 10 day acclimation period before castration treatments and respiratory vaccinations were administered. Calves had previously been stratified by age and assigned randomly to 1 of 5 treatments at birth in a 2x2+1 factorial arrangement. Treatments were 1) surgical castration near birth (CON), 2) surgical castration at feedlot arrival (SUR), 3) oral administration of meloxicam followed by surgical castration at feedlot arrival (0.45 mg/lb or 1 mg/kg BW; SMX), 4) banding castration at feedlot arrival (BAN), or 5) banding castration at feedlot arrival with oral meloxicam (0.45 mg/lb or 1 mg/kg BW; BMX). Data were collected from day of castration through a 70 day post-castration phase. Body weights were recorded on all calves at days 0, 7, 14, 32, and 70. A subset of calves (n = 50) were selected randomly with equal representation of each treatment for jugular collection of blood samples on days 0, 0.25, 1, 4, 7, 14, and 32. Serum was analyzed for concentrations of BVDV-specific antibody titers and haptoglobulin (Hp). For statistical analyses, data were analyzed using the PROC MIXED procedure of SAS. Significance was considered for a *P*-value of less than or equal to 0.05.

Results

Average initial body weight for all treatments at time of treatment application was 548 lb (249 kg). Average daily gain did not differ between treatments ($P = 0.23$) throughout the 70 day post-castration period. However, the ADG from day 0 to 32 was greater ($P = 0.02$) in CON compared to other treatments. Serum BVDV antibody titer concentrations were similar ($P > 0.05$) among treatments. Serum Hp concentrations were significantly higher for SUR compared to other treatments ($P < 0.001$). A day effect was noted for Hp with the highest means noted on day 4 post-castration. Furthermore, SUR tended ($P = 0.08$) to have higher Hp concentrations compared to other treatments on day 4.

Significance

Neither castration method nor oral administration of meloxicam altered BVDV antibody response or ADG during a 70 day post-castration period. The banding castration method and oral meloxicam administration lowered post-castration serum Hp concentrations. Further research is needed to continue to elucidate effects of different castration procedures and the use of analgesics.

Bispectral index and hemodynamic effects of a constant rate infusion of propofol combined with fentanyl in calves under spontaneous ventilation

M. Deschk[1], *DVM, MSc*; **T.A. Trein**[2], *DVM*; **J.T. Wagatsuma**[2], *DVM, MSc*; **G.L. Silva**[3], *Undergraduate student*; **C.A. Rodrigues**[4], *DVM, MSc, PhD*; **P.S.P Santos**[5], *DVM, MSc, PhD*

[1]*Student of Animal Biotechnology, Faculty of Zootechnical and Veterinary Medicine, São Paulo State University, Botucatu, São Paulo, Brazil 16015*

[2]*Student of Animal Sciences, Faculty of Veterinary Medicine of Araçatuba, Sao Paulo State University, Araçatuba, São Paulo, Brazil 16015*

[3]*Undergraduate Student Faculty of Veterinary Medicine of Araçatuba, Sao Paulo State University, Araçatuba, São Paulo, Brazil 16015*

[4]*Professor Faculty of Zootechnical and Veterinary Medicine, São Paulo State University, Botucatu, São Paulo, Brazil 16015*

[5]*Professor, Faculty of Veterinary Medicine of Araçatuba, São Paulo State University, Araçatuba, São Paulo, Brazil 16015*

Introduction

Total intravenous anesthesia is an anesthetic modality which is commonly used in cattle due to its practicality, as it eliminates the need for sophisticated equipment and can be used under field conditions, providing adequate anesthesia and analgesia for bovine patients. This study evaluated the bispectral index (BIS) and hemodynamic effects of a constant rate infusion of propofol combined with fentanyl in calves.